

# NEWSLINE

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## THE LAB TESTS FUEL ALTERNATIVE

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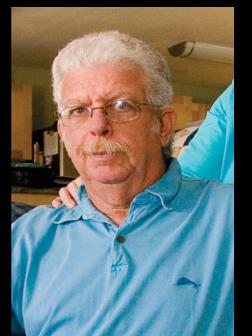
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## SCIENCE NEWS

# With new fuel station, Lab becomes ethanol test bed

By Anne M. Stark  
Newsline staff writer

With the opening of the new E85 fuel station on site, the Laboratory has become a test site for ethanol with the largest fleet of E85 fueled vehicles in the state.

The fuel station located at the northeast corner of Bldg. 611 is now complete. With 281 alternative fuel vehicles in its fleet (sedans, passenger minivans, sport utility vehicles), the Laboratory not only has the biggest fleet in California, but it also is the largest in the Department of Energy complex of national laboratories.

"It's (ethanol) not the mainstream in the state at all," said Mishell Pendleton, Fleet superintendent. "This paves the way for California to build a future E85 test bed."

The E85 fueling station helps the Laboratory comply with Presidential Executive Order 13149 (Greening the Government), which applies to any agency that operates a fleet of at least 20 motor vehicles. And a new executive order issued in January 2007 tasks the Lab with goals of reducing the fleet's total consumption of petroleum products by 2 percent annually through the end of fiscal year 2015; increasing the total fuel consumption that is non-petroleum based by 10 percent annually; and using plug-in hybrid vehicles when they are commercially available.

Livermore is well on its way to meeting those goals. Seventy percent of the Lab's light duty fleet is comprised of alternative fueled vehicles such as compressed natural gas (CNG) and now ethanol, Pendleton said.

Using ethanol reduces the dependence and use of imported petroleum because it is domestically produced by fermentation of sugar or by hydration of ethylene from petroleum and other sources. Ethanol production also supports U.S. farmers and creates jobs.

In addition, ethanol reduces the amount of pollutants emitted into the atmosphere. E85 emissions will be similar to that from gasoline-powered vehicles, but the amount of the emissions will be less. In addition, ethanol emits less carbon monoxide than gasoline — adding oxygenates like ethanol to gasoline reduces carbon-monoxide emissions.

Livermore's AFVs use a blend of 85 percent ethanol and 15 percent gasoline. The station contains a 12,000-gallon underground, double-walled tank, four pumps, a card reader station and a canopy. With the amenities, the E85 station



JACQUELINE MCBRIDE/NEWSLINE

Fleet Superintendent Mishell Pendleton fills up a Laboratory vehicle at the new E85 fuel station, which opened last week. Many Lab vehicles have been converted to accept E85 fuel.

looks like a conventional gas station. On average, ethanol costs about the same amount per gallon as conventional gasoline; however, ethanol-fueled vehicles also emit less greenhouse gases into the environment than typical gasoline-fueled vehicles.

Each E85 vehicle will be identified by an E85 sticker hanging on the rear view mirror and a blue colored fuel card (white colored cards are designated for unleaded only). Vehicles are refueled by pumping the fuel from a dispenser and hose, just like gasoline-powered vehicles. Also, E85 vehicles can be operated with unleaded gasoline anytime E85 is not available.

The California Air Resource Board (CARB) authorized the Lab to build the E85 station under the designation of a research and development

station, during which time the Lab will need to meet certain conditions during a two-year period.

Over the last eight years, the Laboratory has worked to reduce petroleum fuel consumption by identifying opportunities for using alternative fuels, while increasing the number of alternative-fuel vehicles in the Lab's fleet, Pendleton said.

She said as conventional fuel vehicles come up for replacement on the General Services Administration (GSA) schedule, they are replaced with new alternative fuel vehicles.

Pendleton said the station not only decreases the Lab's dependence on foreign and domestic oil, but also helps the environment.

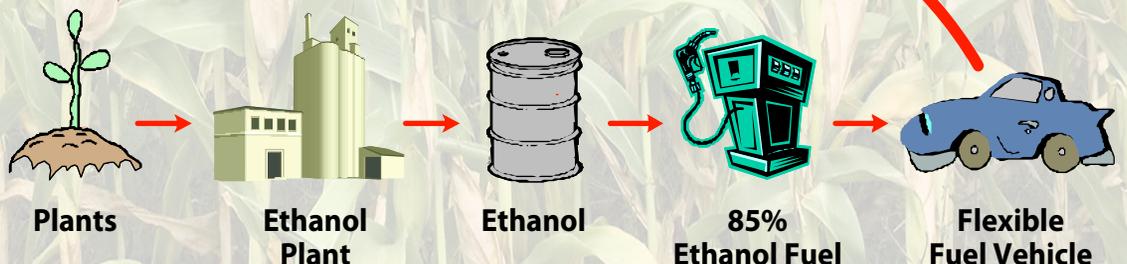
"The Lab is a big supporter of greening of the government," she said.

Photosynthesis

Carbon Dioxide

National Ethanol Vehicle Coalition

BRETT CLARK/TID



On the cover: A photo illustration showing an alternative fuel method. Credit: iStockphoto.com